

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. (Previously Presented): An electrochemical system comprising

a plurality of cells;

a measuring device including a plurality of inputs connected across the plurality of cells to generate voltage and current signals indicative of voltage and current characteristics of the plurality of cells;

a load powered by the plurality of cells;

a current supply/draw means for superimposing modulated current values through the plurality of cells; and,

a controller for controlling at least one system operating condition based on the voltage and current characteristics received from the measuring device, the controller being connected to the measuring device, wherein the at least one system operating condition comprises at least one of temperature, humidity, and reactant flow rates, within the electrochemical system and the load is connected to the plurality of cells in parallel with the current supply/draw means.

2. (Original) The electrochemical system as defined in claim 1 wherein the current supply/draw means comprises a modulator.

3. (Original) The electrochemical system as defined in claim 2 wherein the modulator is an integral part of the controller.